

Base Case-10 Animals Imported
750,000 Simulation Runs

Label	Mean	5th	25th	50th	75th	95th
Epidemic Statistics						
Total Infected	14	10	10	10	11	21
Total Infected w/o Imports	3.5	0	0	0	1	11
Total Clinical	4.3	1	3	4	5	8
Probability Infected > 0 at End	0.0027	0	0	0	0	0
R ₀ Parameter	0.087	0	0	0	0.091	0.52
Mode of Infection						
Maternal	0.54	0	0	0	1	2
Spontaneous	0	0	0	0	0	0
Protein	3	0	0	0	0	11
Blood	0.01	0	0	0	0	0
Exogenous	0	0	0	0	0	0
Mode of Death						
Slaughter	8.3	4	5	6	8	14
Die on Farm - Render	4.4	1	3	4	5	8
Die on Farm - No Render	0.78	0	0	1	1	2
ID50 Sources						
From Slaughter	7,400	500	1,000	3,500	11,000	22,000
From Death on Farm	34,000	10,000	20,000	30,000	40,000	61,000
Disposition of ID50s						
1 To Prohibited MBM	3,600	160	1,100	1,800	3,200	12,000
2 Eliminated by SRM ban	0	0	0	0	0	0
3 Eliminated by Rendering	33,000	9,700	20,000	29,000	39,000	61,000
4 To NP MBM - Contamination	0.0032	0	0	0	0	0
5 To NP MBM - Mislabeling	84	0	0	0	0	110
6 Out After Rendering	1,200	0.08	28	200	1,100	10,000
7 To Prohibited Feed	2,400	34	250	1,100	2,100	11,000
8 To NP Feed - Misdirected	7.7	0	0	0	0	0
9 To NP Feed - Contamination	0.003	0	0	0	0	0
10 To NP Feed - Mislabeling	100	0	0	0	0	240
11 To Blood	0.63	0	5.4E-6	0.0037	0.21	3.6
12 Out After Feed Production	2,400	41	270	1,100	2,100	11,000
13 Misfed to Cattle	38	0	0	0	0	23
14 Total to Cattle	65	0	0	0	0.00058	100
15 Total Potential to Humans	75	3.7E-6	0.07	2.6	46	320
16 Eliminated by AM Inspector	4,100	0	0	0	10,000	20,000
Human Exposure						
Brain	14	0	0	0	0	0
Spinal Cord	5.2	0	0	0	0	0
Blood	0.033	0	0	0	0	0.00025
Distal Ileum	7.5	0	0	0	0	0.044
Contaminated Organ Meat	0	0	0	0	0	0
Eyes	0.00086	0	0	0	0	0
Contaminated Muscle Meat	0.15	8.3E-8	0.000089	0.003	0.028	1
AMR	32	0	0.0044	0.54	22	200
Beef on Bone	17	0	0	0.00036	0.66	84
Trigeminal Ganglia	0	0	0	0	0	0
Tonsils	0.028	0	0	0	0	0

Base Case – 500 Animals Imported
50,000 Simulation Runs

Label	Mean	5th	25th	50th	75th	95th
Epidemic Statistics						
Total Infected	680	530	600	660	740	900
Total Infected w/o Imports	180	33	98	160	240	400
Total Clinical	210	180	200	210	230	270
Probability Infected > 0 at End	0.13	0	0	0	0	1
R ₀ Parameter	0.24	0.062	0.16	0.24	0.33	0.45
Mode of Infection						
Maternal	27	17	23	27	31	38
Spontaneous	0	0	0	0	0	0
Protein	150	10	73	130	220	370
Blood	0.53	0	0	0	1	2
Exogenous	0	0	0	0	0	0
Mode of Death						
Slaughter	420	320	360	400	460	570
Die on Farm - Render	220	180	200	220	240	280
Die on Farm - No Render	39	27	33	38	44	53
ID50 Sources						
From Slaughter	370,000	280,000	330,000	370,000	410,000	480,000
From Death on Farm	1,800,000	1,400,000	1,500,000	1,700,000	1,900,000	2,500,000
Disposition of ID50s						
1 To Prohibited MBM	190,000	130,000	150,000	180,000	210,000	260,000
2 Eliminated by SRM ban	0	0	0	0	0	0
3 Eliminated by Rendering	1,700,000	1,400,000	1,500,000	1,700,000	1,900,000	2,400,000
4 To NP MBM - Contamination	0.17	0	0	0	0.0026	1
5 To NP MBM - Mislabeling	4,400	250	1,300	2,400	4,300	13,000
6 Out After Rendering	62,000	32,000	45,000	57,000	71,000	98,000
7 To Prohibited Feed	130,000	77,000	100,000	120,000	140,000	180,000
8 To NP Feed - Misdirected	420	0	0.0089	3.7	100	1,100
9 To NP Feed - Contamination	0.17	0	0	0	0.0026	1
10 To NP Feed - Mislabeling	5,300	360	1,500	3,000	5,700	15,000
11 To Blood	32	13	22	30	40	57
12 Out After Feed Production	130,000	80,000	100,000	120,000	140,000	180,000
13 Misfed to Cattle	2,000	5.2	130	1,000	2,000	11,000
14 Total to Cattle	3,400	83	720	1,500	3,300	12,000
15 Total Potential to Humans	3,800	1,600	2,400	3,200	4,400	8,700
16 Eliminated by AM Inspector	210,000	130,000	170,000	200,000	240,000	290,000
Human Exposure						
Brain	710	0	0	3.9	330	6,400
Spinal Cord	260	0	0	1.6	130	1,800
Blood	1.6	0.000081	0.021	0.3	1.7	8
Distal Ileum	370	0	91	270	520	1,000
Contaminated Organ Meat	0	0	0	0	0	0
Eyes	0.039	0	0	0	0	0.01
Contaminated Muscle Meat	7.6	2.2	4.8	7.2	10	15
AMR	1,600	780	1,200	1,500	1,900	2,800
Beef on Bone	840	180	390	670	1,200	2,000
Trigeminal Ganglia	0	0	0	0	0	0
Tonsils	1.5	0	0.012	0.51	1	9.5

USDA A: Ban on Non-Ambulatory Cattle to Human Food
50,000 Simulation Runs

Label	Mean	5th	25th	50th	75th	95th
Epidemic Statistics						
Total Infected	680	530	600	660	750	900
Total Infected w/o Imports	180	33	98	160	250	400
Total Clinical	210	180	200	210	230	270
Probability Infected > 0 at End	0.13	0	0	0	0	1
R ₀ Parameter	0.24	0.062	0.16	0.24	0.33	0.45
Mode of Infection						
Maternal	27	17	23	27	31	38
Spontaneous	0	0	0	0	0	0
Protein	150	9	73	130	220	370
Blood	0.53	0	0	0	1	2
Exogenous	0	0	0	0	0	0
Mode of Death						
Slaughter	420	320	360	400	460	570
Die on Farm – Render	220	180	200	220	240	280
Die on Farm – No Render	39	27	33	38	44	53
ID50 Sources						
From Slaughter	370,000	280,000	330,000	370,000	410,000	480,000
From Death on Farm	1,800,000	1,400,000	1,500,000	1,700,000	1,900,000	2,400,000
Disposition of ID50s						
1 To Prohibited MBM	190,000	120,000	150,000	180,000	210,000	260,000
2 Eliminated by SRM ban	0	0	0	0	0	0
3 Eliminated by Rendering	1,700,000	1,400,000	1,500,000	1,700,000	1,900,000	2,300,000
4 To NP MBM – Contamination	0.18	0	0	0	0.0026	1
5 To NP MBM – Mislabeling	4,400	240	1,300	2,400	4,400	13,000
6 Out After Rendering	61,000	32,000	46,000	57,000	71,000	98,000
7 To Prohibited Feed	120,000	77,000	100,000	120,000	140,000	180,000
8 To NP Feed – Misdirected	420	0	0.012	4.1	100	1,100
9 To NP Feed - Contamination	0.17	0	0	0	0.0028	1
10 To NP Feed - Mislabeling	5,200	340	1,500	2,900	5,500	15,000
11 To Blood	32	12	22	30	40	58
12 Out After Feed Production	130,000	80,000	100,000	120,000	140,000	180,000
13 Misfed to Cattle	1,900	5.1	130	1,000	2,000	11,000
14 Total to Cattle	3,300	80	710	1,500	3,200	12,000
15 Total Potential to Humans	3,700	1,600	2,400	3,100	4,400	8,500
16 Eliminated by AM Inspector	210,000	130,000	170,000	210,000	240,000	290,000
Human Exposure						
Brain	690	0	0	3.9	330	6,400
Spinal Cord	260	0	0	1.5	130	1,800
Blood	1.6	0.000065	0.019	0.29	1.7	7.9
Distal Ileum	370	0	150	270	520	1,000
Contaminated Organ Meat	0	0	0	0	0	0
Eyes	0.04	0	0	0	0	0.01
Contaminated Muscle Meat	7.5	2.1	4.7	7	9.7	14
AMR	1,600	770	1,100	1,500	1,900	2,800
Beef on Bone	830	180	380	660	1,200	2,000
Trigeminal Ganglia	0	0	0	0	0	0
Tonsils	1.5	0	0.012	0.51	1	9.5

USDA B: 30 Month Comprehensive SRM (Food Only)
50,000 Simulation Runs

Label	Mean	5th	25th	50th	75th	95th
Epidemic Statistics						
Total Infected	680	530	600	660	740	900
Total Infected w/o Imports	180	33	97	160	240	400
Total Clinical	210	180	200	210	230	260
Probability Infected > 0 at End	0.13	0	0	0	0	1
R ₀ Parameter	0.24	0.062	0.16	0.24	0.33	0.44
Mode of Infection						
Maternal	27	17	23	27	31	38
Spontaneous	0	0	0	0	0	0
Protein	150	10	73	130	210	360
Blood	0.52	0	0	0	1	2
Exogenous	0	0	0	0	0	0
Mode of Death						
Slaughter	420	320	360	400	460	570
Die on Farm - Render	220	180	200	220	240	280
Die on Farm - No Render	39	27	33	38	44	53
ID50 Sources						
From Slaughter	370,000	280,000	330,000	370,000	410,000	480,000
From Death on Farm	1,800,000	1,400,000	1,500,000	1,700,000	1,900,000	2,500,000
Disposition of ID50s						
1 To Prohibited MBM	190,000	120,000	150,000	180,000	210,000	260,000
2 Eliminated by SRM ban	0	0	0	0	0	0
3 Eliminated by Rendering	1,800,000	1,400,000	1,500,000	1,700,000	1,900,000	2,400,000
4 To NP MBM - Contamination	0.18	0	0	0	0.0026	1
5 To NP MBM - Mislabeling	4,500	250	1,300	2,400	4,400	13,000
6 Out After Rendering	62,000	32,000	46,000	57,000	71,000	98,000
7 To Prohibited Feed	130,000	77,000	100,000	120,000	140,000	180,000
8 To NP Feed - Misdirected	400	0	0.0098	3.6	100	1,100
9 To NP Feed - Contamination	0.17	0	0	0	0.0027	1
10 To NP Feed - Mislabeling	5,300	350	1,500	2,900	5,600	15,000
11 To Blood	32	13	22	30	40	57
12 Out After Feed Production	130,000	80,000	100,000	120,000	140,000	180,000
13 Misfed to Cattle	1,900	5.1	130	1,000	2,000	11,000
14 Total to Cattle	3,300	80	660	1,500	3,300	12,000
15 Total Potential to Humans	11	2.7	5.8	8.6	12	20
16 Eliminated by AM Inspector	210,000	130,000	170,000	200,000	240,000	290,000
Human Exposure						
Brain	0.26	0	0	0	0	0
Spinal Cord	0.074	0	0	0	0	0
Blood	1.6	0.000074	0.02	0.3	1.7	7.9
Distal Ileum	0	0	0	0	0	0
Contaminated Organ Meat	0	0	0	0	0	0
Eyes	1.4E-6	0	0	0	0	0
Contaminated Muscle Meat	7.6	2.2	4.8	7.2	10	15
AMR	0.46	0	0	0	0.003	0.12
Beef on Bone	0.53	0	0	0	0.0018	0.12
Trigeminal Ganglia	0	0	0	0	0	0
Tonsils	0	0	0	0	0	0

USDA C: 30 Month Ban on AMR
50,000 Simulation Runs

Label	Mean	5th	25th	50th	75th	95th
Epidemic Statistics						
Total Infected	680	530	600	660	740	900
Total Infected w/o Imports	180	33	97	160	240	400
Total Clinical	210	180	200	210	230	260
Probability Infected > 0 at End	0.13	0	0	0	0	1
R ₀ Parameter	0.24	0.062	0.16	0.24	0.33	0.44
Mode of Infection						
Maternal	27	17	23	27	31	38
Spontaneous	0	0	0	0	0	0
Protein	150	10	73	130	210	360
Blood	0.53	0	0	0	1	2
Exogenous	0	0	0	0	0	0
Mode of Death						
Slaughter	420	320	360	400	460	570
Die on Farm - Render	220	180	200	220	240	280
Die on Farm - No Render	39	27	33	38	44	53
ID50 Sources						
From Slaughter	370,000	280,000	330,000	370,000	410,000	480,000
From Death on Farm	1,800,000	1,400,000	1,500,000	1,700,000	1,900,000	2,400,000
Disposition of ID50s						
1 To Prohibited MBM	190,000	120,000	150,000	180,000	210,000	260,000
2 Eliminated by SRM ban	0	0	0	0	0	0
3 Eliminated by Rendering	1,700,000	1,400,000	1,500,000	1,700,000	1,900,000	2,300,000
4 To NP MBM - Contamination	0.16	0	0	0	0.0027	1
5 To NP MBM - Mislabeling	4,300	250	1,300	2,400	4,300	13,000
6 Out After Rendering	61,000	32,000	46,000	57,000	71,000	97,000
7 To Prohibited Feed	120,000	77,000	99,000	120,000	140,000	180,000
8 To NP Feed - Misdirected	400	0	0.0079	3.6	100	1,100
9 To NP Feed - Contamination	0.17	0	0	0	0.0034	1
10 To NP Feed - Mislabeling	5,200	340	1,500	2,900	5,600	15,000
11 To Blood	32	13	22	30	40	57
12 Out After Feed Production	130,000	80,000	100,000	120,000	140,000	180,000
13 Misfed to Cattle	1,900	5.1	130	1,000	2,000	11,000
14 Total to Cattle	3,400	82	700	1,500	3,200	12,000
15 Total Potential to Humans	2,200	450	960	1,600	2,600	7,000
16 Eliminated by AM Inspector	210,000	130,000	170,000	210,000	240,000	290,000
Human Exposure						
Brain	700	0	0	3.8	330	6,400
Spinal Cord	260	0	0	1.6	130	1,800
Blood	1.6	0.000077	0.019	0.3	1.7	8
Distal Ileum	370	0	110	270	520	1,000
Contaminated Organ Meat	0	0	0	0	0	0
Eyes	0.038	0	0	0	0	0.01
Contaminated Muscle Meat	7.6	2.2	4.8	7.2	10	15
AMR	0	0	0	0	0	0
Beef on Bone	840	170	390	680	1,200	2,000
Trigeminal Ganglia	0	0	0	0	0	0
Tonsils	1.5	0	0.016	0.51	1	9.5

USDA Scenarios A and B
50,000 Simulation Runs

Label	Mean	5th	25th	50th	75th	95th
Epidemic Statistics						
Total Infected	680	530	600	660	740	900
Total Infected w/o Imports	180	33	97	160	240	400
Total Clinical	210	180	200	210	230	270
Probability Infected > 0 at End	0.13	0	0	0	0	1
R ₀ Parameter	0.24	0.062	0.16	0.24	0.33	0.45
Mode of Infection						
Maternal	27	17	23	27	31	38
Spontaneous	0	0	0	0	0	0
Protein	150	10	73	130	210	370
Blood	0.53	0	0	0	1	2
Exogenous	0	0	0	0	0	0
Mode of Death						
Slaughter	420	320	360	400	460	570
Die on Farm - Render	220	180	200	220	240	280
Die on Farm - No Render	39	27	33	38	44	53
ID50 Sources						
From Slaughter	370,000	280,000	330,000	370,000	410,000	480,000
From Death on Farm	1,800,000	1,400,000	1,500,000	1,700,000	1,900,000	2,400,000
Disposition of ID50s						
1 To Prohibited MBM	190,000	130,000	150,000	180,000	210,000	260,000
2 Eliminated by SRM ban	0	0	0	0	0	0
3 Eliminated by Rendering	1,700,000	1,400,000	1,500,000	1,700,000	1,900,000	2,300,000
4 To NP MBM - Contamination	0.17	0	0	0	0.0026	1
5 To NP MBM - Mislabeling	4,400	240	1,300	2,400	4,300	13,000
6 Out After Rendering	61,000	32,000	46,000	57,000	71,000	98,000
7 To Prohibited Feed	120,000	78,000	100,000	120,000	140,000	180,000
8 To NP Feed - Misdirected	410	0	0.0076	3.6	100	1,100
9 To NP Feed - Contamination	0.17	0	0	0	0.0027	1
10 To NP Feed - Mislabeling	5,200	340	1,500	2,900	5,600	15,000
11 To Blood	32	13	22	30	40	57
12 Out After Feed Production	130,000	80,000	100,000	120,000	140,000	180,000
13 Misfed to Cattle	2,000	5.2	130	1,000	2,000	11,000
14 Total to Cattle	3,400	81	670	1,500	3,300	13,000
15 Total Potential to Humans	10	2.7	5.7	8.4	12	20
16 Eliminated by AM Inspector	210,000	130,000	170,000	200,000	240,000	290,000
Human Exposure						
Brain	0.14	0	0	0	0	0
Spinal Cord	0.05	0	0	0	0	0
Blood	1.6	0.00007	0.019	0.29	1.7	8
Distal Ileum	0	0	0	0	0	0
Contaminated Organ Meat	0	0	0	0	0	0
Eyes	0.000018	0	0	0	0	0
Contaminated Muscle Meat	7.5	2.2	4.8	7.1	9.8	14
AMR	0.36	0	0	0	0.003	0.13
Beef on Bone	0.35	0	0	0	0.0018	0.12
Trigeminal Ganglia	0	0	0	0	0	0
Tonsils	0	0	0	0	0	0

USDA Scenarios A and C
50,000 Simulation Runs

Label	Mean	5th	25th	50th	75th	95th
Epidemic Statistics						
Total Infected	680	530	600	660	740	900
Total Infected w/o Imports	180	33	96	160	240	400
Total Clinical	210	180	200	210	230	260
Probability Infected > 0 at End	0.13	0	0	0	0	1
R ₀ Parameter	0.24	0.062	0.16	0.24	0.33	0.45
Mode of Infection						
Maternal	27	17	23	27	31	38
Spontaneous	0	0	0	0	0	0
Protein	150	10	72	130	210	370
Blood	0.53	0	0	0	1	2
Exogenous	0	0	0	0	0	0
Mode of Death						
Slaughter	420	320	360	400	460	570
Die on Farm - Render	220	180	200	220	240	280
Die on Farm - No Render	39	27	33	38	44	53
ID50 Sources						
From Slaughter	370,000	280,000	330,000	370,000	410,000	480,000
From Death on Farm	1,800,000	1,400,000	1,500,000	1,700,000	1,900,000	2,400,000
Disposition of ID50s						
1 To Prohibited MBM	190,000	120,000	150,000	180,000	210,000	260,000
2 Eliminated by SRM ban	0	0	0	0	0	0
3 Eliminated by Rendering	1,700,000	1,400,000	1,500,000	1,700,000	1,900,000	2,300,000
4 To NP MBM - Contamination	0.17	0	0	0	0.0027	1
5 To NP MBM - Mislabeling	4,400	250	1,300	2,400	4,400	13,000
6 Out After Rendering	61,000	32,000	45,000	57,000	71,000	97,000
7 To Prohibited Feed	120,000	77,000	100,000	120,000	140,000	180,000
8 To NP Feed - Misdirected	400	0	0.007	3.6	100	1,100
9 To NP Feed - Contamination	0.16	0	0	0	0.0026	1
10 To NP Feed - Mislabeling	5,100	350	1,500	2,900	5,600	15,000
11 To Blood	32	13	22	30	40	57
12 Out After Feed Production	130,000	80,000	100,000	120,000	140,000	180,000
13 Misfed to Cattle	1,900	5.2	130	1,000	2,000	11,000
14 Total to Cattle	3,300	81	660	1,500	3,300	12,000
15 Total Potential to Humans	2,200	450	950	1,600	2,600	7,100
16 Eliminated by AM Inspector	210,000	130,000	170,000	210,000	240,000	290,000
Human Exposure						
Brain	700	0	0	3.9	330	6,400
Spinal Cord	260	0	0	1.5	130	1,800
Blood	1.6	0.000066	0.019	0.29	1.7	7.9
Distal Ileum	370	0	91	270	520	1,000
Contaminated Organ Meat	0	0	0	0	0	0
Eyes	0.037	0	0	0	0	0.005
Contaminated Muscle Meat	7.5	2.2	4.8	7.1	9.8	14
AMR	0	0	0	0	0	0
Beef on Bone	830	170	380	670	1,200	2,000
Trigeminal Ganglia	0	0	0	0	0	0
Tonsils	1.5	0	0.012	0.51	1	9.5

USDA Scenarios B and C
50,000 Simulation Runs

Label	Mean	5th	25th	50th	75th	95th
Epidemic Statistics						
Total Infected	680	530	600	660	740	900
Total Infected w/o Imports	180	33	98	160	240	400
Total Clinical	210	180	200	210	230	260
Probability Infected > 0 at End	0.13	0	0	0	0	1
R ₀ Parameter	0.24	0.062	0.16	0.24	0.33	0.45
Mode of Infection						
Maternal	27	17	23	27	31	38
Spontaneous	0	0	0	0	0	0
Protein	150	10	74	130	210	370
Blood	0.53	0	0	0	1	2
Exogenous	0	0	0	0	0	0
Mode of Death						
Slaughter	420	320	360	400	460	570
Die on Farm - Render	220	180	200	220	240	280
Die on Farm - No Render	39	27	33	38	44	53
ID50 Sources						
From Slaughter	370,000	280,000	330,000	370,000	410,000	480,000
From Death on Farm	1,800,000	1,400,000	1,500,000	1,700,000	1,900,000	2,500,000
Disposition of ID50s						
1 To Prohibited MBM	190,000	120,000	150,000	180,000	210,000	260,000
2 Eliminated by SRM ban	0	0	0	0	0	0
3 Eliminated by Rendering	1,800,000	1,400,000	1,500,000	1,700,000	1,900,000	2,400,000
4 To NP MBM - Contamination	0.16	0	0	0	0.0026	1
5 To NP MBM - Mislabeling	4,400	250	1,300	2,400	4,400	13,000
6 Out After Rendering	62,000	32,000	45,000	57,000	71,000	98,000
7 To Prohibited Feed	130,000	77,000	100,000	120,000	140,000	180,000
8 To NP Feed - Misdirected	410	0	0.012	3.6	100	1,100
9 To NP Feed - Contamination	0.16	0	0	0	0.0026	1
10 To NP Feed - Mislabeling	5,200	350	1,500	2,900	5,600	15,000
11 To Blood	32	13	22	30	40	57
12 Out After Feed Production	130,000	80,000	100,000	120,000	140,000	180,000
13 Misfed to Cattle	2,000	5.2	130	1,000	2,000	11,000
14 Total to Cattle	3,400	79	720	1,500	3,200	12,000
15 Total Potential to Humans	10	2.7	5.7	8.5	12	19
16 Eliminated by AM Inspector	210,000	130,000	170,000	200,000	240,000	290,000
Human Exposure						
Brain	0.33	0	0	0	0	0
Spinal Cord	0.092	0	0	0	0	0
Blood	1.6	0.000073	0.02	0.31	1.7	8
Distal Ileum	0	0	0	0	0	0
Contaminated Organ Meat	0	0	0	0	0	0
Eyes	1E-5	0	0	0	0	0
Contaminated Muscle Meat	7.6	2.2	4.8	7.2	10	15
AMR	0	0	0	0	0	0
Beef on Bone	0.4	0	0	0	0.0018	0.12
Trigeminal Ganglia	0	0	0	0	0	0
Tonsils	0	0	0	0	0	0

FDA 1: No Blood Recycling
50,000 Simulation Runs

Label	Mean	5th	25th	50th	75th	95th
Epidemic Statistics						
Total Infected	680	530	600	660	740	900
Total Infected w/o Imports	180	33	98	160	240	400
Total Clinical	210	180	200	210	230	260
Probability Infected > 0 at End	0.13	0	0	0	0	1
R ₀ Parameter	0.24	0.062	0.16	0.24	0.33	0.44
Mode of Infection						
Maternal	27	17	23	27	31	38
Spontaneous	0	0	0	0	0	0
Protein	150	10	74	130	220	360
Blood	0	0	0	0	0	0
Exogenous	0	0	0	0	0	0
Mode of Death						
Slaughter	420	320	360	400	460	570
Die on Farm - Render	220	180	200	220	240	280
Die on Farm - No Render	39	27	33	38	44	53
ID50 Sources						
From Slaughter	370,000	280,000	330,000	370,000	410,000	480,000
From Death on Farm	1,800,000	1,400,000	1,500,000	1,700,000	1,900,000	2,400,000
Disposition of ID50s						
1 To Prohibited MBM	190,000	120,000	150,000	180,000	210,000	260,000
2 Eliminated by SRM ban	0	0	0	0	0	0
3 Eliminated by Rendering	1,700,000	1,400,000	1,500,000	1,700,000	1,900,000	2,300,000
4 To NP MBM - Contamination	0.17	0	0	0	0.0032	1
5 To NP MBM - Mislabeling	4,400	250	1,300	2,400	4,400	13,000
6 Out After Rendering	61,000	32,000	46,000	57,000	71,000	97,000
7 To Prohibited Feed	130,000	77,000	99,000	120,000	140,000	180,000
8 To NP Feed - Misdirected	420	0	0.014	4.4	100	1,100
9 To NP Feed - Contamination	0.17	0	0	0	0.0028	1
10 To NP Feed - Mislabeling	5,200	350	1,500	3,000	5,700	15,000
11 To Blood	0	0	0	0	0	0
12 Out After Feed Production	130,000	80,000	100,000	120,000	140,000	180,000
13 Misfed to Cattle	2,000	5.2	130	1,000	2,000	11,000
14 Total to Cattle	3,400	81	760	1,500	3,300	12,000
15 Total Potential to Humans	3,800	1,600	2,400	3,200	4,400	8,600
16 Eliminated by AM Inspector	210,000	130,000	170,000	210,000	240,000	290,000
Human Exposure						
Brain	700	0	0	3.9	330	6,400
Spinal Cord	260	0	0	1.5	130	1,800
Blood	1.6	0.00008	0.021	0.3	1.7	8
Distal Ileum	370	0	83	270	520	1,000
Contaminated Organ Meat	0	0	0	0	0	0
Eyes	0.038	0	0	0	0	0.01
Contaminated Muscle Meat	7.7	2.2	4.8	7.2	10	15
AMR	1,600	780	1,200	1,500	1,900	2,800
Beef on Bone	840	180	390	680	1,200	2,000
Trigeminal Ganglia	0	0	0	0	0	0
Tonsils	1.5	0	0.012	0.51	1	9.5

FDA 2: No Contamination (Rendering and Feed Production)
50,000 Simulation Runs

Label	Mean	5th	25th	50th	75th	95th
Epidemic Statistics						
Total Infected	680	530	600	660	740	900
Total Infected w/o Imports	180	33	97	160	240	400
Total Clinical	210	180	200	210	230	270
Probability Infected > 0 at End	0.14	0	0	0	0	1
R ₀ Parameter	0.24	0.062	0.16	0.24	0.33	0.45
Mode of Infection						
Maternal	27	17	23	27	31	38
Spontaneous	0	0	0	0	0	0
Protein	150	10	73	130	220	370
Blood	0.53	0	0	0	1	2
Exogenous	0	0	0	0	0	0
Mode of Death						
Slaughter	420	320	360	400	460	570
Die on Farm - Render	220	180	200	220	240	280
Die on Farm - No Render	39	27	33	38	44	53
ID50 Sources						
From Slaughter	370,000	280,000	330,000	370,000	410,000	480,000
From Death on Farm	1,800,000	1,400,000	1,500,000	1,700,000	1,900,000	2,500,000
Disposition of ID50s						
1 To Prohibited MBM	190,000	120,000	150,000	180,000	210,000	260,000
2 Eliminated by SRM ban	0	0	0	0	0	0
3 Eliminated by Rendering	1,700,000	1,400,000	1,500,000	1,700,000	1,900,000	2,400,000
4 To NP MBM - Contamination	0	0	0	0	0	0
5 To NP MBM - Mislabeling	4,400	250	1,300	2,400	4,400	13,000
6 Out After Rendering	62,000	32,000	46,000	57,000	71,000	98,000
7 To Prohibited Feed	130,000	77,000	100,000	120,000	140,000	180,000
8 To NP Feed - Misdirected	400	0	0	3.4	100	1,100
9 To NP Feed - Contamination	0	0	0	0	0	0
10 To NP Feed - Mislabeling	5,200	340	1,500	2,900	5,500	15,000
11 To Blood	32	13	22	30	40	57
12 Out After Feed Production	130,000	80,000	100,000	120,000	140,000	180,000
13 Misfed to Cattle	2,000	5.1	130	1,000	2,000	11,000
14 Total to Cattle	3,400	82	690	1,500	3,300	12,000
15 Total Potential to Humans	3,800	1,600	2,400	3,200	4,400	8,700
16 Eliminated by AM Inspector	210,000	130,000	170,000	200,000	240,000	290,000
Human Exposure						
Brain	700	0	0	3.9	330	6,400
Spinal Cord	260	0	0	1.6	130	1,800
Blood	1.6	0.000071	0.019	0.3	1.7	8
Distal Ileum	370	0	160	270	520	1,000
Contaminated Organ Meat	0	0	0	0	0	0
Eyes	0.038	0	0	0	0	0.01
Contaminated Muscle Meat	7.7	2.2	4.9	7.3	10	15
AMR	1,600	780	1,200	1,500	1,900	2,800
Beef on Bone	840	170	390	680	1,200	2,000
Trigeminal Ganglia	0	0	0	0	0	0
Tonsils	1.5	0	0.012	0.51	1	9.5

International Committee 1:12 Month Comprehensive SRM (Feed and Food)
50,000 Simulation Runs

Label	Mean	5th	25th	50th	75th	95th
Epidemic Statistics						
Total Infected	540	520	530	530	540	570
Total Infected w/o Imports	35	19	25	30	38	71
Total Clinical	190	170	180	190	190	210
Probability Infected > 0 at End	0.0057	0	0	0	0	0
R ₀ Parameter	0.065	0.037	0.048	0.057	0.071	0.12
Mode of Infection						
Maternal	23	15	20	23	27	32
Spontaneous	0	0	0	0	0	0
Protein	11	0	2	6	11	46
Blood	0.48	0	0	0	1	2
Exogenous	0	0	0	0	0	0
Mode of Death						
Slaughter	320	300	310	320	330	350
Die on Farm - Render	180	170	180	180	190	200
Die on Farm - No Render	33	24	29	32	36	42
ID50 Sources						
From Slaughter	330,000	260,000	300,000	330,000	370,000	420,000
From Death on Farm	1,500,000	1,300,000	1,400,000	1,500,000	1,500,000	2,100,000
Disposition of ID50s						
1 To Prohibited MBM	15,000	3,300	4,000	4,600	5,400	59,000
2 Eliminated by SRM ban	1,500,000	1,400,000	1,500,000	1,500,000	1,600,000	1,700,000
3 Eliminated by Rendering	130,000	37,000	40,000	43,000	45,000	680,000
4 To NP MBM - Contamination	0.016	0	0	0	5.1E-6	0.028
5 To NP MBM - Mislabeling	380	3.4	32	60	110	370
6 Out After Rendering	4,800	790	1,200	1,500	1,900	3,200
7 To Prohibited Feed	10,000	2,000	2,600	3,100	3,700	11,000
8 To NP Feed - Misdirected	22	0	0	0.015	2.8	31
9 To NP Feed - Contamination	0.006	0	0	0	5.1E-6	0.028
10 To NP Feed - Mislabeling	290	6.2	37	69	130	400
11 To Blood	29	11	19	27	37	53
12 Out After Feed Production	10,000	2,100	2,700	3,100	3,700	11,000
13 Misfed to Cattle	140	0.018	2.9	28	43	290
14 Total to Cattle	230	3.7	25	44	86	350
15 Total Potential to Humans	9.8	2.7	5.7	8.5	12	22
16 Eliminated by AM Inspector	190,000	120,000	160,000	190,000	220,000	260,000
Human Exposure						
Brain	0	0	0	0	0	0
Spinal Cord	0	0	0	0	0	0
Blood	1.5	0.00003	0.012	0.22	1.5	7.6
Distal Ileum	0	0	0	0	0	0
Contaminated Organ Meat	0	0	0	0	0	0
Eyes	0.035	0	0	0	0	0.005
Contaminated Muscle Meat	6.9	1.9	4.3	6.5	9.1	13
AMR	0	0	0	0	0	0
Beef on Bone	0	0	0	0	0	0
Trigeminal Ganglia	0	0	0	0	0	0
Tonsils	1.3	0	0	0.51	0.74	9.5

International Committee 2: Prohibition of All Meat and Bone meal in Ruminant Feed
50,000 Simulation Runs

Label	Mean	5th	25th	50th	75th	95th
Epidemic Statistics						
Total Infected	670	530	590	650	730	890
Total Infected w/o Imports	170	32	92	150	230	390
Total Clinical	210	180	190	210	230	260
Probability Infected > 0 at End	0.12	0	0	0	0	1
R ₀ Parameter	0.24	0.06	0.16	0.23	0.32	0.44
Mode of Infection						
Maternal	27	17	23	26	31	38
Spontaneous	0	0	0	0	0	0
Protein	150	8	68	120	210	360
Blood	0.52	0	0	0	1	2
Exogenous	0	0	0	0	0	0
Mode of Death						
Slaughter	410	310	360	400	460	560
Die on Farm - Render	220	180	200	210	240	280
Die on Farm - No Render	39	27	33	38	44	53
ID50 Sources						
From Slaughter	370,000	280,000	330,000	370,000	410,000	480,000
From Death on Farm	1,800,000	1,400,000	1,500,000	1,700,000	1,900,000	2,500,000
Disposition of ID50s						
1 To Prohibited MBM	190,000	130,000	160,000	180,000	210,000	270,000
2 Eliminated by SRM ban	0	0	0	0	0	0
3 Eliminated by Rendering	1,700,000	1,400,000	1,500,000	1,600,000	1,900,000	2,400,000
4 To NP MBM - Contamination	0	0	0	0	0	0
5 To NP MBM - Mislabeling	0	0	0	0	0	0
6 Out After Rendering	62,000	32,000	45,000	57,000	71,000	97,000
7 To Prohibited Feed	130,000	77,000	100,000	120,000	140,000	180,000
8 To NP Feed - Misdirected	0	0	0	0	0	0
9 To NP Feed - Contamination	0.17	0	0	0	0.005	1
10 To NP Feed - Mislabeling	5,200	340	1,500	2,900	5,600	15,000
11 To Blood	32	13	22	30	40	57
12 Out After Feed Production	130,000	79,000	100,000	120,000	140,000	180,000
13 Misfed to Cattle	2,000	5.1	130	1,000	2,000	11,000
14 Total to Cattle	3,300	67	550	1,400	3,200	12,000
15 Total Potential to Humans	3,800	1,600	2,400	3,200	4,400	8,600
16 Eliminated by AM Inspector	210,000	130,000	170,000	200,000	240,000	290,000
Human Exposure						
Brain	700	0	0	3.8	330	6,400
Spinal Cord	260	0	0	1.5	130	1,800
Blood	1.6	0.000068	0.019	0.29	1.7	7.9
Distal Ileum	370	0	91	270	520	1,000
Contaminated Organ Meat	0	0	0	0	0	0
Eyes	0.038	0	0	0	0	0.01
Contaminated Muscle Meat	7.6	2.2	4.8	7.2	9.9	14
AMR	1,600	780	1,200	1,500	1,900	2,800
Beef on Bone	840	170	390	670	1,200	2,000
Trigeminal Ganglia	0	0	0	0	0	0
Tonsils	1.5	0	0.012	0.51	1	9.5

Sensitivity 1: Pessimistic-Mislabeling and Contamination
50,000 Simulation Runs

Label	Mean	5th	25th	50th	75th	95th
Epidemic Statistics						
Total Infected	700	540	610	680	770	940
Total Infected w/o Imports	200	38	110	180	270	440
Total Clinical	220	180	200	220	240	270
Probability Infected > 0 at End	0.16	0	0	0	0	1
R ₀ Parameter	0.27	0.071	0.18	0.27	0.35	0.47
Mode of Infection						
Maternal	28	18	23	27	32	39
Spontaneous	0	0	0	0	0	0
Protein	170	15	86	160	240	410
Blood	0.53	0	0	0	1	2
Exogenous	0	0	0	0	0	0
Mode of Death						
Slaughter	430	320	370	420	480	600
Die on Farm - Render	230	180	200	220	250	290
Die on Farm - No Render	40	28	34	39	45	55
ID50 Sources						
From Slaughter	380,000	280,000	340,000	380,000	420,000	490,000
From Death on Farm	1,800,000	1,400,000	1,600,000	1,700,000	1,900,000	2,500,000
Disposition of ID50s						
1 To Prohibited MBM	190,000	120,000	150,000	180,000	210,000	260,000
2 Eliminated by SRM ban	0	0	0	0	0	0
3 Eliminated by Rendering	1,800,000	1,400,000	1,500,000	1,700,000	1,900,000	2,400,000
4 To NP MBM - Contamination	1.3	0.0008	0.051	0.28	1.1	10
5 To NP MBM - Mislabeling	9,900	2,000	4,000	6,500	14,000	24,000
6 Out After Rendering	63,000	32,000	47,000	59,000	73,000	99,000
7 To Prohibited Feed	130,000	77,000	100,000	120,000	140,000	180,000
8 To NP Feed - Misdirected	970	0.18	13	110	1,000	2,500
9 To NP Feed - Contamination	1.4	0.0014	0.08	0.38	1.2	10
10 To NP Feed - Mislabeling	6,600	730	2,300	3,800	10,000	17,000
11 To Blood	32	13	22	31	41	58
12 Out After Feed Production	130,000	81,000	100,000	120,000	140,000	180,000
13 Misfed to Cattle	2,000	5.3	130	1,000	2,000	11,000
14 Total to Cattle	3,900	120	1,100	2,100	3,800	13,000
15 Total Potential to Humans	3,800	1,600	2,400	3,300	4,500	8,700
16 Eliminated by AM Inspector	210,000	140,000	180,000	210,000	240,000	290,000
Human Exposure						
Brain	710	0	0	4.7	330	6,400
Spinal Cord	270	0	0	1.7	130	1,800
Blood	1.6	0.000083	0.022	0.32	1.7	8
Distal Ileum	380	0.00099	170	270	530	1,000
Contaminated Organ Meat	0	0	0	0	0	0
Eyes	0.039	0	0	0	0	0.01
Contaminated Muscle Meat	7.7	2.3	4.9	7.3	10	15
AMR	1,600	800	1,200	1,500	1,900	2,800
Beef on Bone	850	180	400	680	1,200	2,000
Trigeminal Ganglia	0	0	0	0	0	0
Tonsils	1.5	0	0.016	0.51	1	9.5

Sensitivity 2: Pessimistic-Misfeeding
50,000 Simulation Runs

Label	Mean	5th	25th	50th	75th	95th
Epidemic Statistics						
Total Infected	3,100	1,700	2,400	3,000	3,700	4,900
Total Infected w/o Imports	2,600	1,200	1,900	2,500	3,200	4,400
Total Clinical	590	370	480	580	690	860
Probability Infected > 0 at End	1	1	1	1	1	1
Ro Parameter	0.89	0.73	0.84	0.9	0.95	1
Mode of Infection						
Maternal	72	42	58	70	84	110
Spontaneous	0	0	0	0	0	0
Protein	2,500	1,100	1,800	2,400	3,100	4,300
Blood	1.1	0	0	1	2	4
Exogenous	0	0	0	0	0	0
Mode of Death						
Slaughter	2,000	1,100	1,600	2,000	2,400	3,200
Die on Farm - Render	710	420	570	690	830	1,100
Die on Farm - No Render	120	73	100	120	150	190
ID50 Sources						
From Slaughter	910,000	580,000	750,000	890,000	1,000,000	1,300,000
From Death on Farm	4,700,000	2,900,000	3,800,000	4,600,000	5,500,000	6,900,000
Disposition of ID50s						
1 To Prohibited MBM	500,000	290,000	400,000	490,000	590,000	750,000
2 Eliminated by SRM ban	0	0	0	0	0	0
3 Eliminated by Rendering	4,700,000	2,900,000	3,800,000	4,500,000	5,400,000	6,800,000
4 To NP MBM - Contamination	0.45	0	0.0008	0.026	0.15	1.2
5 To NP MBM - Mislabeling	12,000	2,500	5,200	9,000	16,000	28,000
6 Out After Rendering	160,000	91,000	130,000	160,000	190,000	250,000
7 To Prohibited Feed	340,000	190,000	260,000	320,000	400,000	510,000
8 To NP Feed - Misdirected	1,100	1.2	34	200	1,100	5,900
9 To NP Feed - Contamination	0.45	0	0.0008	0.026	0.15	1.2
10 To NP Feed - Mislabeling	14,000	3,100	6,300	12,000	19,000	32,000
11 To Blood	70	33	52	67	85	110
12 Out After Feed Production	300,000	170,000	240,000	290,000	350,000	440,000
13 Misfed to Cattle	49,000	15,000	31,000	45,000	63,000	94,000
14 Total to Cattle	53,000	17,000	34,000	49,000	68,000	100,000
15 Total Potential to Humans	9,000	4,200	6,300	8,300	11,000	16,000
16 Eliminated by AM Inspector	450,000	280,000	370,000	440,000	520,000	650,000
Human Exposure						
Brain	1,500	0	8.3	230	1,700	6,800
Spinal Cord	570	0	3.2	84	640	2,600
Blood	3.6	0.02	0.43	1.7	4.8	14
Distal Ileum	1,600	530	1,000	1,500	2,100	3,000
Contaminated Organ Meat	0	0	0	0	0	0
Eyes	0.09	0	0	0	0	0.2
Contaminated Muscle Meat	17	7.1	12	16	21	29
AMR	3,500	1,800	2,600	3,300	4,200	5,600
Beef on Bone	1,800	580	1,100	1,700	2,400	3,600
Trigeminal Ganglia	0	0	0	0	0	0
Tonsils	4.2	0.53	1.1	2.1	3.8	21

Sensitivity 3: Pessimistic-Render Reduction Factor
50,000 Simulation Runs

Label	Mean	5th	25th	50th	75th	95th
Epidemic Statistics						
Total Infected	740	540	630	710	830	1,000
Total Infected w/o Imports	240	38	130	210	330	530
Total Clinical	230	180	200	220	250	290
Probability Infected > 0 at End	0.21	0	0	0	0	1
Ro Parameter	0.3	0.071	0.2	0.3	0.4	0.52
Mode of Infection						
Maternal	28	18	24	28	33	40
Spontaneous	0	0	0	0	0	0
Protein	210	14	98	180	300	490
Blood	0.54	0	0	0	1	2
Exogenous	0	0	0	0	0	0
Mode of Death						
Slaughter	460	320	380	440	520	660
Die on Farm - Render	240	180	210	230	260	310
Die on Farm - No Render	42	28	35	41	47	58
ID50 Sources						
From Slaughter	390,000	290,000	340,000	390,000	430,000	510,000
From Death on Farm	1,900,000	1,400,000	1,600,000	1,800,000	2,000,000	2,600,000
Disposition of ID50s						
1 To Prohibited MBM	240,000	170,000	200,000	230,000	270,000	340,000
2 Eliminated by SRM ban	0	0	0	0	0	0
3 Eliminated by Rendering	1,800,000	1,400,000	1,500,000	1,700,000	1,900,000	2,500,000
4 To NP MBM - Contamination	0.21	0	0	0	0.026	1
5 To NP MBM - Mislabeling	5,700	1,000	2,200	3,600	6,200	15,000
6 Out After Rendering	80,000	46,000	61,000	75,000	91,000	120,000
7 To Prohibited Feed	160,000	110,000	130,000	150,000	180,000	230,000
8 To NP Feed - Misdirected	530	0	0.058	26	760	2,000
9 To NP Feed - Contamination	0.21	0	0	0	0.026	1
10 To NP Feed - Mislabeling	6,800	1,200	2,600	4,400	8,200	17,000
11 To Blood	33	13	23	31	42	59
12 Out After Feed Production	170,000	110,000	140,000	160,000	180,000	230,000
13 Misfed to Cattle	2,600	26	300	1,200	2,400	11,000
14 Total to Cattle	4,400	110	1,200	2,400	4,600	14,000
15 Total Potential to Humans	4,000	1,700	2,500	3,400	4,700	8,800
16 Eliminated by AM Inspector	220,000	140,000	180,000	210,000	250,000	300,000
Human Exposure						
Brain	730	0	0.019	8	330	6,400
Spinal Cord	270	0	0.0054	2.2	130	1,800
Blood	1.7	0.00012	0.026	0.34	1.8	8.2
Distal Ileum	400	0.0049	260	280	540	1,000
Contaminated Organ Meat	0	0	0	0	0	0
Eyes	0.04	0	0	0	0	0.01
Contaminated Muscle Meat	8	2.3	5.1	7.5	10	15
AMR	1,700	820	1,200	1,500	2,000	2,900
Beef on Bone	880	190	420	720	1,200	2,100
Trigeminal Ganglia	0	0	0	0	0	0
Tonsils	1.6	0	0.016	0.51	1	9.5

Sensitivity 4: Increased Consumption of Bone in Beef Cuts
50,000 Simulation Runs

Label	Mean	5th	25th	50th	75th	95th
Epidemic Statistics						
Total Infected	680	530	600	660	740	900
Total Infected w/o Imports	180	33	97	160	240	400
Total Clinical	210	180	200	210	230	270
Probability Infected > 0 at End	0.13	0	0	0	0	1
R ₀ Parameter	0.24	0.062	0.16	0.24	0.33	0.45
Mode of Infection						
Maternal	27	17	23	27	31	38
Spontaneous	0	0	0	0	0	0
Protein	150	9	73	130	210	370
Blood	0.53	0	0	0	1	2
Exogenous	0	0	0	0	0	0
Mode of Death						
Slaughter	420	320	360	400	460	570
Die on Farm - Render	220	180	200	220	240	280
Die on Farm - No Render	39	27	33	38	44	53
ID50 Sources						
From Slaughter	370,000	280,000	330,000	370,000	410,000	480,000
From Death on Farm	1,800,000	1,400,000	1,500,000	1,700,000	1,900,000	2,500,000
Disposition of ID50s						
1 To Prohibited MBM	190,000	120,000	150,000	180,000	210,000	270,000
2 Eliminated by SRM ban	0	0	0	0	0	0
3 Eliminated by Rendering	1,800,000	1,400,000	1,500,000	1,700,000	1,900,000	2,400,000
4 To NP MBM - Contamination	0.17	0	0	0	0.0026	1
5 To NP MBM - Mislabeling	4,400	250	1,300	2,400	4,300	13,000
6 Out After Rendering	62,000	32,000	45,000	57,000	71,000	98,000
7 To Prohibited Feed	130,000	77,000	100,000	120,000	140,000	180,000
8 To NP Feed - Misdirected	410	0	0.0069	3.4	100	1,100
9 To NP Feed - Contamination	0.19	0	0	0	0.0028	1
10 To NP Feed - Mislabeling	5,300	340	1,500	3,000	5,600	15,000
11 To Blood	32	12	22	30	40	57
12 Out After Feed Production	130,000	80,000	100,000	120,000	140,000	190,000
13 Misfed to Cattle	2,000	5.1	130	1,000	2,000	11,000
14 Total to Cattle	3,400	77	670	1,500	3,300	13,000
15 Total Potential to Humans	4,500	2,000	3,000	3,900	5,300	9,400
16 Eliminated by AM Inspector	210,000	130,000	170,000	200,000	240,000	290,000
Human Exposure						
Brain	710	0	0	4.1	330	6,400
Spinal Cord	260	0	0	1.5	130	1,800
Blood	1.6	0.00009	0.022	0.31	1.7	8.1
Distal Ileum	370	0	160	270	520	1,000
Contaminated Organ Meat	0	0	0	0	0	0
Eyes	0.036	0	0	0	0	0.01
Contaminated Muscle Meat	7.6	2.2	4.8	7.2	10	15
AMR	1,600	780	1,200	1,500	1,900	2,800
Beef on Bone	1,500	490	900	1,400	2,000	3,000
Trigeminal Ganglia	0	0	0	0	0	0
Tonsils	0	0	0	0	0	0

Sensitivity 5: Less Effective AM Inspection
50,000 Simulation Runs

Label	Mean	5th	25th	50th	75th	95th
Epidemic Statistics						
Total Infected	690	540	600	670	760	920
Total Infected w/o Imports	190	36	100	170	260	420
Total Clinical	220	180	200	210	230	270
Probability Infected > 0 at End	0.14	0	0	0	0	1
R ₀ Parameter	0.25	0.067	0.17	0.25	0.34	0.46
Mode of Infection						
Maternal	27	18	23	27	31	38
Spontaneous	0	0	0	0	0	0
Protein	160	12	79	140	230	380
Blood	0.97	0	0	1	2	4
Exogenous	0	0	0	0	0	0
Mode of Death						
Slaughter	420	320	360	410	470	580
Die on Farm - Render	220	180	200	220	240	290
Die on Farm - No Render	39	27	34	39	44	54
ID50 Sources						
From Slaughter	380,000	280,000	330,000	370,000	420,000	480,000
From Death on Farm	1,800,000	1,400,000	1,500,000	1,700,000	1,900,000	2,500,000
Disposition of ID50s						
1 To Prohibited MBM	200,000	130,000	160,000	190,000	220,000	270,000
2 Eliminated by SRM ban	0	0	0	0	0	0
3 Eliminated by Rendering	1,800,000	1,400,000	1,600,000	1,800,000	2,000,000	2,500,000
4 To NP MBM - Contamination	0.17	0	0	0	0.0052	1
5 To NP MBM - Mislabeling	4,700	290	1,400	2,500	4,600	14,000
6 Out After Rendering	65,000	34,000	49,000	61,000	75,000	100,000
7 To Prohibited Feed	130,000	83,000	110,000	130,000	150,000	190,000
8 To NP Feed - Misdirected	420	0	0.026	5.6	110	1,100
9 To NP Feed - Contamination	0.2	0	0	0	0.0079	1
10 To NP Feed - Mislabeling	5,500	410	1,700	3,200	6,300	15,000
11 To Blood	59	28	44	57	72	97
12 Out After Feed Production	140,000	86,000	110,000	130,000	150,000	190,000
13 Misfed to Cattle	2,100	5.9	140	1,100	2,100	11,000
14 Total to Cattle	3,600	110	1,000	1,800	3,400	13,000
15 Total Potential to Humans	6,600	3,000	4,300	5,700	7,900	13,000
16 Eliminated by AM Inspector	110,000	60,000	80,000	100,000	130,000	160,000
Human Exposure						
Brain	1,300	0	0.019	10	700	6,500
Spinal Cord	470	0	0.0077	4.7	280	2,600
Blood	2.9	0.00016	0.052	0.84	3.8	14
Distal Ileum	400	0.00099	260	290	550	1,000
Contaminated Organ Meat	0	0	0	0	0	0
Eyes	0.072	0	0	0	0	0.022
Contaminated Muscle Meat	14	5.2	9.7	13	17	24
AMR	2,900	1,600	2,200	2,700	3,400	4,600
Beef on Bone	1,500	390	810	1,400	2,000	3,200
Trigeminal Ganglia	0	0	0	0	0	0
Tonsils	2.4	0	0.016	0.51	1	20

Longer Incubation Period
50,000 Simulations Runs

Label	Mean	5th	25th	50th	75th	95th
Epidemic Statistics						
Total Infected	540	510	510	520	560	630
Total Infected w/o Imports	43	6	13	24	60	130
Total Clinical	27	19	23	27	31	37
Probability Infected > 0 at End	0.15	0	0	0	0	1
R ₀ Parameter	0.074	0.012	0.025	0.046	0.11	0.2
Mode of Infection						
Maternal	6	2	4	6	8	11
Spontaneous	0	0	0	0	0	0
Protein	37	1	7	17	54	120
Blood	0.22	0	0	0	0	1
Exogenous	0	0	0	0	0	0
Mode of Death						
Slaughter	430	390	410	420	450	500
Die on Farm - Render	96	78	87	94	100	120
Die on Farm - No Render	17	10	14	17	20	24
ID50 Sources						
From Slaughter	150,000	110,000	130,000	150,000	170,000	200,000
From Death on Farm	250,000	140,000	180,000	210,000	250,000	330,000
Disposition of ID50s						
1 To Prohibited MBM	35,000	16,000	22,000	30,000	39,000	56,000
2 Eliminated by SRM ban	0	0	0	0	0	0
3 Eliminated by Rendering	320,000	210,000	250,000	290,000	320,000	400,000
4 To NP MBM - Contamination	0.029	0	0	0	0.0008	0.028
5 To NP MBM - Mislabeling	850	33	90	240	720	2,100
6 Out After Rendering	12,000	3,700	5,500	7,600	15,000	24,000
7 To Prohibited Feed	23,000	9,500	13,000	20,000	26,000	40,000
8 To NP Feed - Misdirected	68	0	0.00008	0.8	26	260
9 To NP Feed - Contamination	0.029	0	0	0	0.0008	0.028
10 To NP Feed - Mislabeling	1,000	47	120	320	1,100	2,300
11 To Blood	14	2.9	7	12	18	30
12 Out After Feed Production	23,000	9,700	14,000	20,000	26,000	41,000
13 Misfed to Cattle	380	1.6	26	54	210	1,100
14 Total to Cattle	670	13	59	130	400	1,500
15 Total Potential to Humans	1,900	650	1,100	1,600	2,200	4,400
16 Eliminated by AM Inspector	44,000	10,000	30,000	40,000	60,000	80,000
Human Exposure						
Brain	300	0	0	0.2	17	1,500
Spinal Cord	110	0	0	0.079	6.7	580
Blood	0.69	0	0.00091	0.022	0.33	3.8
Distal Ileum	450	0.021	260	510	600	1,000
Contaminated Organ Meat	0	0	0	0	0	0
Eyes	0.015	0	0	0	0	0.00026
Contaminated Muscle Meat	3.3	0.36	1.3	2.9	4.7	7.8
AMR	680	210	420	610	840	1,400
Beef on Bone	360	29	110	220	470	1,100
Trigeminal Ganglia	0	0	0	0	0	0
Tonsils	0.99	0	0.016	0.51	1	2.6

Sensitivity 7: Low Value for Probability of Non-clinical Animals Becoming Non-ambulatory
50,000 Simulation Runs

Label	Mean	5th	25th	50th	75th	95th
Epidemic Statistics						
Total Infected	680	530	600	660	740	900
Total Infected w/o Imports	180	33	97	160	240	400
Total Clinical	210	180	200	210	230	260
Probability Infected > 0 at End	0.13	0	0	0	0	1
R ₀ Parameter	0.24	0.062	0.16	0.24	0.33	0.45
Mode of Infection						
Maternal	27	17	23	27	31	38
Spontaneous	0	0	0	0	0	0
Protein	150	9	73	130	210	370
Blood	0.52	0	0	0	1	2
Exogenous	0	0	0	0	0	0
Mode of Death						
Slaughter	420	320	360	400	460	570
Die on Farm - Render	220	180	200	220	240	280
Die on Farm - No Render	39	27	33	38	44	53
ID50 Sources						
From Slaughter	370,000	280,000	330,000	370,000	410,000	480,000
From Death on Farm	1,800,000	1,400,000	1,500,000	1,700,000	1,900,000	2,500,000
Disposition of ID50s						
1 To Prohibited MBM	190,000	120,000	150,000	180,000	210,000	260,000
2 Eliminated by SRM ban	0	0	0	0	0	0
3 Eliminated by Rendering	1,700,000	1,400,000	1,500,000	1,700,000	1,900,000	2,400,000
4 To NP MBM - Contamination	0.17	0	0	0	0.0028	1
5 To NP MBM - Mislabeling	4,400	250	1,300	2,400	4,400	13,000
6 Out After Rendering	62,000	31,000	45,000	58,000	71,000	98,000
7 To Prohibited Feed	130,000	77,000	100,000	120,000	140,000	180,000
8 To NP Feed - Misdirected	420	0	0.013	4.4	100	1,100
9 To NP Feed - Contamination	0.17	0	0	0	0.005	1
10 To NP Feed - Mislabeling	5,300	360	1,500	2,900	5,700	15,000
11 To Blood	32	13	22	30	40	57
12 Out After Feed Production	130,000	80,000	100,000	120,000	140,000	180,000
13 Misfed to Cattle	2,000	5.1	130	1,000	2,000	11,000
14 Total to Cattle	3,400	78	690	1,500	3,200	12,000
15 Total Potential to Humans	3,800	1,600	2,400	3,200	4,400	8,700
16 Eliminated by AM Inspector	210,000	130,000	170,000	210,000	240,000	290,000
Human Exposure						
Brain	700	0	0	4	330	6,400
Spinal Cord	260	0	0	1.5	130	1,800
Blood	1.6	0.000075	0.021	0.3	1.7	8.1
Distal Ileum	370	0	160	270	520	1,000
Contaminated Organ Meat	0	0	0	0	0	0
Eyes	0.037	0	0	0	0	0.01
Contaminated Muscle Meat	7.6	2.2	4.8	7.2	10	15
AMR	1,600	790	1,200	1,500	1,900	2,800
Beef on Bone	840	180	390	680	1,200	2,000
Trigeminal Ganglia	0	0	0	0	0	0
Tonsils	1.5	0	0.016	0.51	1	9.5

Sensitivity 8: High Value for Probability of Non-clinical Animals Becoming Non-ambulatory
50,000 Simulation Runs

Label	Mean	5th	25th	50th	75th	95th
Epidemic Statistics						
Total Infected	680	530	600	660	740	900
Total Infected w/o Imports	180	33	97	160	240	400
Total Clinical	210	180	200	210	230	260
Probability Infected > 0 at End	0.13	0	0	0	0	1
R ₀ Parameter	0.24	0.062	0.16	0.24	0.33	0.44
Mode of Infection						
Maternal	27	17	23	27	31	38
Spontaneous	0	0	0	0	0	0
Protein	150	10	73	130	210	370
Blood	0.53	0	0	0	1	2
Exogenous	0	0	0	0	0	0
Mode of Death						
Slaughter	420	320	360	400	460	570
Die on Farm - Render	220	180	200	220	240	280
Die on Farm - No Render	39	27	33	38	44	53
ID50 Sources						
From Slaughter	370,000	280,000	330,000	370,000	410,000	480,000
From Death on Farm	1,800,000	1,400,000	1,500,000	1,700,000	1,900,000	2,500,000
Disposition of ID50s						
1 To Prohibited MBM	190,000	120,000	150,000	180,000	210,000	260,000
2 Eliminated by SRM ban	0	0	0	0	0	0
3 Eliminated by Rendering	1,700,000	1,400,000	1,500,000	1,700,000	1,900,000	2,400,000
4 To NP MBM - Contamination	0.16	0	0	0	0.0026	1
5 To NP MBM - Mislabeling	4,400	250	1,300	2,400	4,400	13,000
6 Out After Rendering	62,000	32,000	46,000	57,000	71,000	98,000
7 To Prohibited Feed	130,000	77,000	100,000	120,000	140,000	180,000
8 To NP Feed - Misdirected	410	0	0.013	4.4	100	1,100
9 To NP Feed - Contamination	0.19	0	0	0	0.0034	1
10 To NP Feed - Mislabeling	5,200	350	1,500	3,000	5,500	15,000
11 To Blood	33	13	22	31	41	58
12 Out After Feed Production	130,000	80,000	100,000	120,000	140,000	180,000
13 Misfed to Cattle	2,000	5.1	130	1,000	2,000	11,000
14 Total to Cattle	3,400	80	670	1,500	3,200	12,000
15 Total Potential to Humans	3,800	1,600	2,400	3,200	4,500	8,800
16 Eliminated by AM Inspector	200,000	130,000	170,000	200,000	230,000	280,000
Human Exposure						
Brain	720	0	0	4.2	330	6,400
Spinal Cord	260	0	0	1.5	130	1,800
Blood	1.6	0.000076	0.02	0.3	1.7	8.1
Distal Ileum	370	0	160	270	520	1,000
Contaminated Organ Meat	0	0	0	0	0	0
Eyes	0.04	0	0	0	0	0.01
Contaminated Muscle Meat	7.7	2.2	4.9	7.2	10	15
AMR	1,600	790	1,200	1,500	1,900	2,800
Beef on Bone	850	180	390	680	1,200	2,000
Trigeminal Ganglia	0	0	0	0	0	0
Tonsils	1.6	0	0.016	0.51	1	9.5